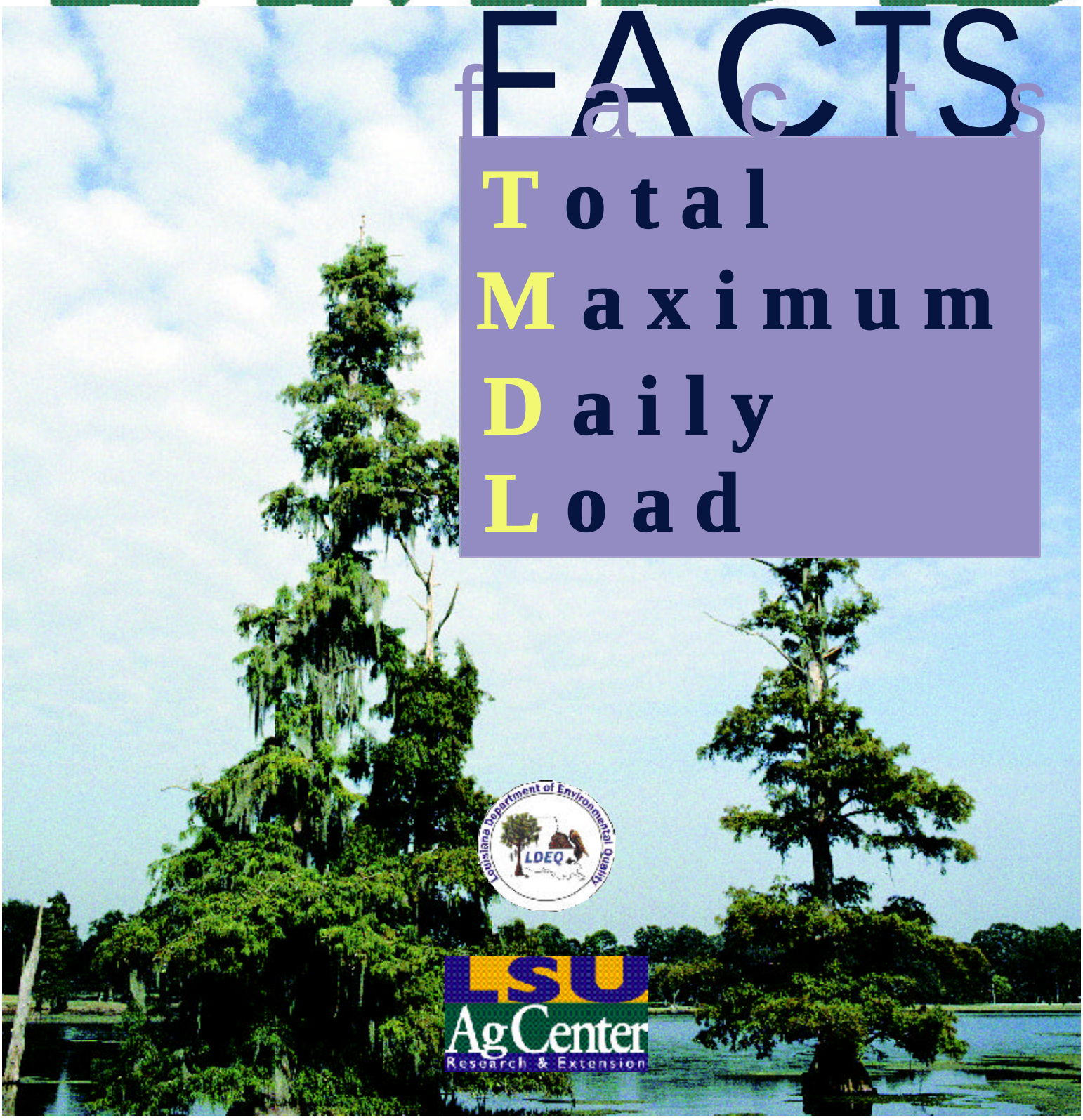
Louisiana's

TMDL FACTS

facts

Total
Maximum
Daily
Load



Louisiana Department of Environmental Quality
LDEQ

LSU AgCenter
Research & Extension

INTRODUCTION

Section 303(d) of the 1972 Clean Water Act (CWA) requires all states to develop a list of their state's impaired waterbodies. The 303(d) list of impaired waterbodies consists of those waterbodies that do not meet state regulatory water quality standards even with the current pollution controls in place (even after point sources of pollution have installed the minimum levels of pollution controls). The CWA also requires all states to establish priority rankings for waters on the 303(d) list and develop Total Maximum Daily Loads (TMDLs) for these waters based on their individual priority ranking.

A TMDL is a pollution budget for a specific waterbody (river, lake, stream, etc.). It is the maximum amount of a pollutant (sum of allowable pollutant loads from point and nonpoint sources) that can be released into a waterbody without causing the waterbody to become impaired and/or violate state water quality standards. A TMDL also must include a margin of safety to allow for any uncertainties in the scientific methods used to derive the TMDL (water quality modeling assumptions, etc.)

TMDL=

Wasteload Allocation (point sources)

+

Load Allocation (nonpoint sources and natural background sources)

+

Margin of Safety

POINT SOURCES

Point sources originate from a stationary location or fixed facility from which pollutants are discharged directly into a waterbody. Some examples of point sources include:

- wastewater effluent, both municipal and industrial facilities
- runoff and infiltration from confined animal feeding operations
- runoff from active mine sites and oil fields
- runoff and leachate from waste disposal sites

NONPOINT SOURCES

Pollution sources, which are diffuse and do not have a single point of origin or are not introduced into a receiving stream from a specific outlet, are considered nonpoint sources of pollution. Some examples of nonpoint sources are:

- runoff from row-crop agriculture (including return flow from irrigated agriculture)
- runoff from pasture and range
- runoff from forested areas
- runoff from roads, highways and parking lots
- runoff from urban stormwater
- runoff from lawns and gardens
- activities on the land that generate pollution, such as logging, wetland conversion for development and construction
- natural sources, such as leaves, organic nutrients and wildlife feces

Most of the attention about TMDLs has been focused on agriculture and forestry. However, municipalities, urban areas, business and industry, and rural subdivisions are also subject to TMDLs. Municipalities can be affected in three ways. The discharge limits for solids, biochemical oxygen demand (BOD), and nutrients from sewage plants are subject to being lowered, which can be quite expensive to comply with. Storm sewer surges caused by rainwater entering the sewage pipes and urban stormwater will have to be addressed. Urban stormwater may contain high loadings of many types of pollutants including nutrients, fecal coliform bacteria, oil and grease, metals and pesticides. Since much of the surface in an urban area is covered with an impervious surface, most of the rainfall runs off taking materials deposited on the surface. Rural subdivisions with malfunctioning home sewage treatment plants may be a source of increased discharges of nutrients. Collecting and treating stormwater from urban areas and rural subdivisions will be difficult and expensive. Reducing or eliminating storm sewer overflows may call for repair or replacement of large portions of the sewer systems.

HISTORY OF TMDLs

TMDLs were first required by the CWA of 1972. Initially, states and the Environmental Protection Agency (EPA) focused on the point source part of the TMDL, called the wasteload allocation. Some TMDLs were developed but, until recently, very little national emphasis or resources were placed on developing the complex scientific tools necessary to produce credible TMDL assessments. It is also important to note that prior to the development of TMDLs, some level of technology and water quality based controls has always been required from point sources. The absence of TMDLs does not mean that no discharge controls are in place on state waterbodies. Many times these controls of point sources are adequate to protect water uses without a TMDL. Several years ago, however, citizen organizations began bringing legal actions against EPA, seeking the complete listing of impaired waters and development of TMDLs as required by the CWA. To date, there have been about 40 legal actions in 38 states, including Louisiana. EPA is under a court order or consent decree in many states to ensure that TMDLs are established. The CWA authorizes the states to develop TMDLs, but if the states do not develop the TMDLs, then EPA must develop them.

One approach EPA used to address the large numbers of lawsuits was to revise the current TMDL regulations. Those draft regulations were issued in 1999. After the Agency's review and consideration of more than 34,000 comments, the TMDL rule was finalized on July 13, 2000. As with the original Act and regulations, the final TMDL rule mandates that states list impaired waterbodies, as required under Section 303(d) of the CWA, and develop TMDLs for those waterbodies. By law, the EPA must approve or disapprove state 303(d) lists and TMDLs. If a state submission is disapproved, EPA must establish a new 303(d) list and/or develop new TMDLs.

Before the federal court action, the Louisiana Department of Environmental Quality (LDEQ) and Region 6 EPA signed a memorandum of understanding (MOU) agreeing to establish 609 TMDLs for 196 waterbodies in Louisiana over a 12-year period. As a result of a federal court order, EPA was ordered to disapprove LDEQ's 1998 303(d) list, develop a new 303(d) list, and set a new time frame for developing TMDLs. EPA Region 6 is now required by court order to establish 1711 TMDLs for 349 waterbodies over a seven-year period. By agreement with EPA, however, LDEQ retains primary responsibility for the development of TMDLs in Louisiana. If LDEQ cannot complete all TMDLs by the deadlines imposed by the court, then EPA Region 6 will be required to develop those TMDLs. The accelerated schedule for TMDLs in Louisiana watersheds is listed below (TMDLs must be completed by December 31 of each year):

1999 Mermentau/Vermilion–Teche Basins

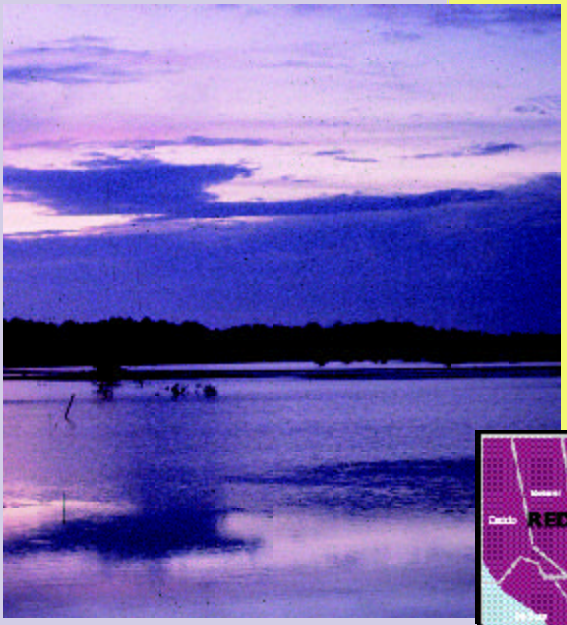
2001 Calcasieu/Ouachita Basins

2003 Barataria/Terrebonne Basins

2005 Red/Sabine Basins

2006 Pontchartrain Basin

2007 Mississippi/Atchafalaya/Pearl Basins



Louisiana's Basin Map

m Daily Load

TMDL IMPLEMENTATION

Each TMDL will contain the key elements outlined below:

- waterbody name and location
- identification of the pollutant
- the water quality standard for the waterbody
- amount of pollutant allowable to meet standards (pollution budget)
- load reduction needed to meet standards
- sources of the pollutant
- wasteload allocation for point sources
- load allocation for runoff (nonpoint sources) and other sources of pollution
- margin of safety
- consideration of seasonal variation
- public comment period
- EPA review and approval

When a TMDL is established, states must provide reasonable assurance that all affected sources will be able to meet their allocated load reductions. For point sources, reasonable assurance is to be provided through the Louisiana Pollutant Discharge Elimination System (LPDES) permits. For nonpoint sources, reasonable assurance will consist of a watershed implementation plan, which describes the types of voluntary actions, or Best Management Practices (BMPs), that are necessary to achieve compliance and the delivery mechanism that will be used to ensure their implementation throughout the watershed.

Many of the TMDLs have the potential to affect rural areas. Louisiana will rely on the voluntary participation of forestry and agricultural producers to ensure that TMDLs can be successfully implemented. This stakeholder participation will consist of efforts to demonstrate, promote, design and implement BMPs for water quality improvements.

BMPs are nothing new to agricultural producers. They are environmentally sound agricultural production practices voluntarily implemented by agricultural producers for years. They are production practices used to control the generation and delivery of pollutants from agricultural activities to water resources of the state. Each of these BMPs is a culmination of years of research and demonstrations conducted by agricultural research scientists and soil engineers. BMPs and accompanying standards and specifications are published by the NRCS in its Field Office Technical Guide (FOTG). Agricultural BMP manuals are being developed for each commodity in Louisiana. These commodities include:

- Rice
- Poultry
- Agronomic Crops
  (cotton, corn, soybeans, feed grains)
- Sugarcane
- Swine
- Sweet Potatoes
- Aquaculture
- Dairy
- Beef Cattle
- Commercial Vegetables
- Horticulture

A Louisiana forestry BMP manual has already been developed and is being used across the state. Additionally, best management practices are being developed for homeowners covering lawn care, horticulture and pesticide use. The development and distribution of these manuals will help assure the maximum implementation of BMPs across Louisiana and help achieve TMDL goals.

These voluntary efforts will be a partnership between the agricultural commodity groups, the USDA Natural Resources Conservation Service (NRCS), LDEQ, the Louisiana Farm Bureau Federation (LFBF), Louisiana Department of Agriculture and Forestry (LDAF), Louisiana Department of Natural Resources (DNR), USDA – Agricultural Research Service (ARS), Louisiana Forestry Association, Local Soil and Water Conservation Districts and the LSU AgCenter.

NEXT STEPS

Louisiana must establish TMDLs for all waterbodies in the state according to the priority order and schedule of the 303(d) list. LPDES permits will continue to be issued to control pollutants from point sources. Dischargers may be required to implement new and innovative discharge reduction methods. For control of pollutants from nonpoint sources, BMPs will continue to be implemented through the current nonregulatory, cooperative program. LDEQ will closely monitor BMP implementation and provide advice and assistance in pursuing innovative methods in the control of nonpoint source pollutants.

The success of this program largely resides with the agricultural, silvicultural, industrial and municipal facilities, and urban communities. Without the cooperation from these stakeholders, TMDL implementation will not be successful. There will be continued public education and outreach regarding best management practices and TMDL implementation as TMDLs continue to be developed. The state will continue to monitor water quality following implementation of TMDLs to determine whether the additional pollution controls have resulted in improved water quality.

If future water quality monitoring shows that the waterbody is no longer impaired, no additional action should be needed to reduce pollution. However, if pollution levels are still unacceptable at the end of a reasonable time period following implementation of voluntary actions, LDEQ must revise the TMDLs and pursue the implementation of additional and/or alternative control measures. As a result of these combined efforts, all Louisiana stakeholders will be actively involved in the successful reduction of pollutant loads in impaired waterbodies and the restoration and maintenance of high quality waters in Louisiana.

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Web address for the LDEQ TMDL web page:
http://www.deq.state.la.us/technology/tmdl/index.htm

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